

US Application Ser. No. 10/619,721
Reply to Notice of Non-compliant amendment dated Feb. 6, 2008

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AMENDMENTS TO THE CLAIMS

The following listing of claims lists the status of every claim that is, or ever was, in the present application. This listing will replace all prior listings, and versions, of claims in the present application.

Listing of claims:

1. (currently amended) A bendable polymer tissue fixation device for implantation into a living body, said polymer fixation device comprising a highly porous body, said porous body comprising at least one biopolymer, said porous body comprising a plurality of pores, said porous body being capable of being smoothly bent, wherein when said porous body is subjected to a bending force, said bending at least partially collapses a portion of the pores to form a radius curve, whereby said porous body maintains said radius curve upon removal of the bending force, said polymer fixation device being capable of being gradually resorbed by said living body, said polymer fixation device being rigid enough to protect a tissue from shifting.
2. (original) The polymer tissue fixation device of claim 1 wherein the porous body can be smoothly bent to conform to a tissue structure.
3. (original) The polymer tissue fixation device of claim 1 wherein the porous body can be smoothly bent to conform to a tissue structure, said smooth bending being capable of occurring at a temperature below the glass transition point of the polymer.
4. (original) The polymer tissue fixation device of claim 1 wherein the porous body comprises a plurality of porous zones, wherein at least one zone of pores is less able to withstand compressive force than other zones.
5. (original) The polymer tissue fixation device of claim 4 wherein the porous body can be compressed against an irregular surface, whereupon less than all of the pores collapse, and the device conforms to the irregular surface.

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6. (original) The polymer tissue fixation device of claim 1 wherein the pores are arranged to yield and selectively collapse to allow for placement of a fastening device to fasten the polymer fixation device within the living body.

7. (original) The polymer tissue fixation device of claim 1 wherein the porous body is capable of being fastened within the living body by means of an adhesive.

8. (original) The polymer tissue fixation device of claim 1 wherein the porous body is capable of being fastened within the living body by a fastening device, said fastening device selected from the group consisting of a wire, a staple, a suture, a pin, a nail, a tack, a screw, and a clamp.

9. (original) The polymer tissue fixation device of claim 1 further comprising a plurality of holes extending through the prosthesis, said plurality of holes serving as a fastening location.

10. (original) The polymer tissue fixation device of claim 1 wherein the porous body further comprises additional material.

11. (original) The polymer tissue fixation device of claim 10 wherein the additional material further comprises biologically active agents.

12. (original) The polymer tissue fixation device of claim 10 wherein the additional material further comprises particulate material, said particulate material being arranged to enable the polymer fixation device to deliver biologically active agents.

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13. (original) The polymer tissue fixation device of claim 10 wherein the additional material further comprises particulate material, said particulate material being arranged to impart greater rigidity to the tissue fixation device.

14. (original) The polymer tissue fixation device of claim 10 wherein the additional material is radio-opaque.

15. (original) The polymer tissue fixation device of claim 10 wherein the additional material comprises microspheres.

16. (original) The polymer tissue fixation device of claim 10 wherein the additional material is distributed throughout the device.

17. (original) The polymer tissue fixation device of claim 10 wherein the additional material is distributed unevenly throughout said device.

18. (original) The polymer tissue fixation device of claim 10 wherein the additional material serves to alter the rate of resorption of the polymer fixation device.

19. (currently amended) A bendable polymer tissue fixation device for implantation into a living body, said polymer fixation device comprising a composite, said composite comprising a highly porous body and at least one strengthening agent contained within said porous body, said porous body comprising a plurality of pores, said porous body being capable of being smoothly bent, wherein when said porous body is subjected to a bending force, said bending collapses a portion of the pores to form a radius curve, whereby said porous body maintains said radius curve upon removal of the bending force, said polymer fixation device being capable of being gradually resorbed by said living body, said polymer fixation device being rigid enough to protect a fixed tissue from shifting.

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20. (original) The polymer tissue fixation device of claim 19 wherein the porous body can be smoothly bent to conform to a tissue structure.

21. (original) The polymer tissue fixation device of claim 19 wherein the porous body can be smoothly bent to conform to a tissue structure, said smooth bending being capable of occurring at a temperature below the glass transition point of the polymer.

22. (original) The polymer tissue fixation device of claim 19 wherein the porous body comprises a plurality of porous zones, wherein at least one zone of pores is less able to withstand compressive force than other zones.

23. (original) The polymer tissue fixation device of claim 22 wherein the porous body can be compressed against an irregular surface, whereupon less than all of the pores collapse, and the device conforms to the irregular surface.

24. (original) The polymer tissue fixation device of claim 19 wherein the pores are arranged to yield and selectively collapse to allow for placement of a fastening device to fasten the polymer fixation device within the living body.

25. (original) The polymer tissue fixation device of claim 19 wherein the porous body is capable of being fastened within the living body by means of an adhesive.

26. (original) The polymer tissue fixation device of claim 19 wherein the porous body is capable of being fastened within the living body by a fastening device, said fastening device selected from the group consisting of a wire, a staple, a suture, a pin, a nail, a tack, a screw, and a clamp.

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27. (original) The polymer tissue fixation device of claim 19 further comprising a plurality of holes extending through the prosthesis, said plurality of holes serving as a fastening location.

28. (original) The polymer tissue fixation device of claim 19 wherein the porous body further comprises additional material.

29. (original) The porous body of claim 28 wherein the additional material further comprises biologically active agents.

30. (original) The porous body of claim 28 wherein the additional material further comprises particulate material, said particulate material being arranged to enable the polymer fixation device to deliver biologically active agents.

31. (original) The porous body of claim 28 wherein the additional material further comprises particulate material, said particulate material being arranged to impart greater rigidity to the tissue fixation device.

32. (original) The porous body of claim 28 wherein the additional material is radio-opaque.

33. (original) The porous body of claim 28 wherein the additional material comprises microspheres.

34. (original) The porous body of claim 28 wherein the additional material is distributed throughout the device.

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35. (original) The porous body of claim 28 wherein the additional material is distributed unevenly throughout said device.

36. (original) The porous body of claim 28 wherein the additional material serves to alter the rate of resorption of the polymer fixation device.

37. (original) The polymer tissue fixation device of claim 19 wherein the strengthening agent is biodegradable.

38. (original) The polymer tissue fixation device of claim 19, wherein the strengthening agent is arranged in the form selected from the group consisting of a mesh, a weave, a knit, and a random arrangement of fibers.

39. (original) The polymer tissue fixation device of claim 1, further comprising a first layer having a first pore density, a second layer having a second pore density, and a third layer having said first pore density, with a transitional interface between the adjoining layers.

40. (original) The polymer tissue fixation device of claim 19, further comprising a first layer having a first pore density, a second layer having a second pore density, and a third layer having said first pore density, with a transitional interface between the adjoining layers.

41. (withdrawn) The polymer tissue fixation device of claim 1, further comprising a first layer having a first pore density, a second layer having a second pore density, and a third layer having a third pore density, with a transitional interface between the adjoining layers.

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42. (withdrawn) The polymer tissue fixation device of claim 19, further comprising a first layer having a first pore density, a second layer having a second pore density, and a third layer having a third pore density, with a transitional interface between the adjoining layers.

43. (currently amended) A bendable polymer tissue fixation device for implantation into a living body, said polymer fixation device comprising a laminar body, said laminar body having an first layer, a second layer and an interface, said first layer comprising a highly porous form of a polymer material, said second layer comprising a non-porous form of said polymer material; said polymer material comprising a biopolymer, said porous form comprising a plurality of pores, said porous form transitioning to the non-porous form at said interface, said laminar body being capable of being smoothly bent, wherein said bending force collapses a portion of the pores of the porous form to prevent cracking or breaking of the non-porous form, and wherein said laminar body maintains said bent condition following removal of the bending force.

44. (currently amended) A bendable polymer tissue fixation device for implantation into a living body, said polymer fixation device comprising a laminar body, said laminar body having an first layer, a second layer and an interface, said first layer comprising a highly porous form of a first polymer material, said second layer comprising a non-porous form of a second polymer material; said first and second polymer materials comprising biopolymers, said porous form comprising a plurality of pores, said porous form transitioning to the non-porous form at said interface, said laminar body being capable of being smoothly bent, wherein said bending by a bending force collapses a portion of the pores of the porous form to prevent cracking or breaking of the non-porous form, and wherein said laminar body maintains said bent condition following removal of the bending force.

45. (original) The polymer tissue fixation device of claim 11, wherein at least a portion of said biologically active agent is located within at least a portion of said pores.

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46. (original) The polymer tissue fixation device of claim 11, wherein at least a portion of said biologically active agent is located within the polymer of said polymer fixation device.

47. (original) The polymer tissue fixation device of claim 1, further being capable of being cut using surgical scissors.

48. (original) The polymer tissue fixation device of claim 1, further being capable of being cut out of a large sheet of similar material by a punching operation.

49. (original) The polymer tissue fixation device of claim 1, wherein the porous body is capable of being smoothly bent without the need for heating.

50. (original) The polymer tissue fixation device of claim 1, wherein the porous body is capable of being smoothly bent without the need for special tools.

51. (currently amended) A deformable polymer tissue fixation device for implantation into a living body, said polymer fixation device comprising a porous body comprising at least one biopolymer, wherein the porous body comprises a plurality of porous zones, further wherein at least one of the zones is less able to withstand compressive force than at least one other zone such that the porous body can be compressed against an irregular surface, whereupon less than all of the pores collapse, and the device conforms to the irregular shape, and wherein the device continues to conform to the irregular shape after the compressive force is removed, wherein said polymer fixation device is capable of being gradually resorbed by the living body, and further wherein the polymer fixation device is rigid enough to isolate and protect a fastened tissue from shifting.

52. (new). The bendable polymer tissue fixation device of claim 1, wherein said device does not require ingrowth of new tissue of said living body as said device resorbs.